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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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Published:
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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CANCER ASSOCIATED PROTEIN PHOSPHATASES AND THEIR USES

(57) Abstract: Detection of expression of the provided phosphatases in cancers is useful as a diagnostic, for determining the effectiveness of drugs, and for determining patient prognosis. The encoded polypeptides further provide a target for screening pharmaceutical agents effective in inhibiting the growth or metastasis of tumor cells. The present invention further provides methods and compositions relating to agents that specifically bind to MKPX, PTP4A1, PTPN7, FEM-2, DKFZP566K0524 or FLJ20313 for treatment and visualization of tumors in patients.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/[redacted]3/00393

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N9/16 C12Q1/42 G01N33/574 C12Q1/68 G01N33/573
A61K49/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12N C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, Sequence Search, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/012819 A (PLOWMAN GREGORY D ;LIOUBIN MARIO (US); SUGEN INC (US); WHYTE DAVID) 22 February 2001 (2001-02-22) page 107, line 24 - page 110, line 15; claims 1-23; figure 3	1-59
X	WO 01/002581 A (CEPTYR INC ;LUCHE RALF M (US); WEI BO (US)) 11 January 2001 (2001-01-11) SEQ ID NO:2	1-59
X	WO 01/002582 A (CEPTYR INC ;LUCHE RALF M (US); WEI BO (US)) 11 January 2001 (2001-01-11) SEQ ID NO:2; Example 2; page 2, line 17 - page 8; page 43, lines 7 et seq.; claims 1- 98	1-59

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 November 2003	04 03 2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Thiele, U

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 03/00393

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 7-11, 17-27, 37-40 and 43-59 are directed to a method of treatment of the human/animal body by therapy, diagnosis and surgery, the search has been carried out and based on the alleged effects of the compound/composition.

2. [ ] Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. [ ] Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. [ ] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. [ ] As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. [X] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-59 (part)

Remark on Protest

[ ] The additional search fees were accompanied by the applicant's protest.

[ ] No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-59(part)

Inventions relying on the polypeptide having the amino acid sequence set forth in SEQ ID NO:1 or on the nucleic acid sequence comprising the sequence set forth in SEQ ID NO: 2; methods of screening for biologically active agents that modulate a cancer associated phosphatase function; methods for diagnosis of cancer; methods for inhibiting the growth of a cancer cell; methods of screening for targets of a cancer associated phosphatase; methods to treat a tumour; compounds for the treatment of a tumour; methods for visualizing a tumour in a patient

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2. claims: 1-59(part)

Inventions relying on the polypeptide having the amino acid sequence set forth in SEQ ID NO:3 or on the nucleic acid sequence comprising the sequence set forth in SEQ ID NO:4; methods of screening for biologically active agents that modulate a cancer associated phosphatase function; methods for diagnosis of cancer; methods for inhibiting the growth of a cancer cell; methods of screening for targets of a cancer associated phosphatase; methods to treat a tumour; compounds for the treatment of a tumour; methods for visualizing a tumour in a patient

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3. claims: 1-59(part)

Inventions relying on the polypeptide having the amino acid sequence set forth in SEQ ID NO:5 or on the nucleic acid sequence comprising the sequence set forth in SEQ ID NO:6; methods of screening for biologically active agents that modulate a cancer associated phosphatase function; methods for diagnosis of cancer; methods for inhibiting the growth of a cancer cell; methods of screening for targets of a cancer associated phosphatase; methods to treat a tumour; compounds for the treatment of a tumour; methods for visualizing a tumour in a patient

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4. claims: 1-59(part)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Inventions relying on the polypeptide having the amino acid sequence set forth in SEQ ID NO:7 or on the nucleic acid sequence comprising the sequence set forth in SEQ ID NO:8; methods of screening for biologically active agents that modulate a cancer associated phosphatase function; methods for diagnosis of cancer; methods for inhibiting the growth of a cancer cell; methods of screening for targets of a cancer associated phosphatase; methods to treat a tumour; compounds for the treatment of a tumour; methods for visualizing a tumour in a patient

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5. claims: 1-59(part)

Inventions relying on the polypeptide having the amino acid sequence set forth in SEQ ID NO:9 or on the nucleic acid sequence comprising the sequence set forth in SEQ ID NO:10; methods of screening for biologically active agents that modulate a cancer associated phosphatase function; methods for diagnosis of cancer; methods for inhibiting the growth of a cancer cell; methods of screening for targets of a cancer associated phosphatase; methods to treat a tumour; compounds for the treatment of a tumour; methods for visualizing a tumour in a patient

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6. claims: 1-59(part)

Inventions relying on the polypeptide having the amino acid sequence set forth in SEQ ID NO:11 or on the nucleic acid sequence comprising the sequence set forth in SEQ ID NO:12; methods of screening for biologically active agents that modulate a cancer associated phosphatase function; methods for diagnosis of cancer; methods for inhibiting the growth of a cancer cell; methods of screening for targets of a cancer associated phosphatase; methods to treat a tumour; compounds for the treatment of a tumour; methods for visualizing a tumour in a patient

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INTERNATIONAL SEARCH REPORT

nfo[redacted]n on patent family members

Int[redacted] Application No
PCT/[redacted]03/00393

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